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the studs *m* and *n*, and, not engaging either barrel, produces no motion of the mangle-box.

Fig. 2, one of the barrels separate.

Fig. 3, the square middle part of the axis, showing the slit in which the lever traverses.

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### XV.—CAP FOR A MALT-KILN.

*The LARGE SILVER MEDAL was this Session presented to Mr. WILLIAM HENRY PERKINS, of Stanstead, Herts, for his CAP FOR A MALT-KILN; a Model of which has been placed in the Society's Repository.*

SIR;

Stanstead, Herts, November 1, 1826.

HAVING made a considerable improvement in Malt-kilns, by substituting a cap, in place of the usual cowls, I shall be glad to obtain the approbation of the Society of Arts, and will attend with a complete model thereof, on being favoured with notice when the subject will be taken into consideration.

I am, Sir,

*A. Aikin, Esq.*

&c. &c. &c.

*Secretary, &c. &c.*

WM. HENRY PERKINS.

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The common cowl of a malt-kiln is a long, somewhat conical, cap, open at one side, and having the vane or arm so fixed, that, as the wind shifts, the cowl shall turn on its spindle, and always present the boarded or closed side to the weather. This prevents drifted rain from beating in; but in showers, when the wind is still, the wet readily finds its way in: this, if the floor is loaded with malt,

retards the drying of it, and, if empty, rusts the iron wire of which the floor is composed, except it is covered with sacks, straw, &c.

Another inconvenience attending the common cowl is, that it prevents all accurate regulation of the fire, except by varying the supply of fuel; so that in making the high-dried malt, it is by no means uncommon for the grain on the kiln to take fire, to its own certain injury, and the imminent hazard of the premises. Mr. Perkins's cap, by enabling the chimney to be opened, or, if necessary, entirely closed, offers additional security against these accidents.

Felix Booth, Esq. of Brentford, in a letter dated 1st May, 1827, reports to the Secretary of the Society, that he has made trial of Mr. Perkins's cap for the last three months. He has found that a saving in fuel has resulted from its use, and that the malt has been benefitted by the facility which the invention affords, of regulating and varying the heat according to the increasing dryness of the malt, and other circumstances.

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*Reference to the Figures.—Plate II.*

Fig. 8 represents the turn-cap *a a a*, and neck *b b* in section; *c c* a square iron bar, or spindle, sliding through a square hole in the middle of the iron plate or bar *d*, and through another in the middle of the beam *e*: the cap *a a* turns upon the upper cylindrical portion of this bar, and the bar itself is supported, and hangs, entirely on the chain *f*, attached to the pulley *g*, which is mounted in a carriage on the beam *e*; on the same axis is a larger pulley *h*, with a chain attached to it at *i*, and from which a weight *j* hangs, sufficient to balance the weight of the sliding-bar *c*, and turn-cap *a a*. By raising the weight *j*

the cap is lowered, and finally shut, and on lowering the weight the cap is raised quite up, or held at any intermediate height.

Fig. 9 is a section of the neck between the bars *d* and *e*.

Fig. 10 a top view of the bar *d*, showing the hole through which the spindle passes; *k*, fig. 8, is a similar iron bar across the cap *a a*.

The chain *f* should be attached quite close to the bar *c c*, to lessen its tendency to lean on one side.



#### XVI.—IMPROVED CAT-BLOCK.

*The SILVER VULCAN MEDAL was this Session presented to Mr. J. BOTHWAY, R. N. for his IMPROVED CAT-BLOCK; a model of which has been placed in the Society's Repository.*

SIR;

13, Clowance-street, Devonport,  
December 16, 1826.

I REQUEST that you will lay before the Society for the encouragement of Arts, Manufactures, and Commerce, the accompanying model of an improved metal cat-block, for the use of the royal navy, and for merchants' service, which I have had the satisfaction of inventing, and which, under the sanction of the Public Boards, has already been introduced into several of His Majesty's ships, with every prospect of its proving so eminently useful, as to receive universal adoption.

In the course of a long period of service in the royal navy, having observed how many valuable seamen have been lost overboard, when getting under weigh in a fresh